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WINGING IT

Despite strident appeals from some neighbors, it looks like Zaha Hadid is coming to San Diego.

On October 20, the city's planning commission approved a request to have Hadid and San Diego firm Public demolish an existing

ranchburger on Whale Watch Way in La Jolla in order to replace it with a 12,700-squarefoot residence including four bedrooms, six bathrooms, and an indoor pool.

The project, which has been described by Hadid's office as an "introverted sculptural structure," displays the firm's trademark continued on page 8 focus on elegant



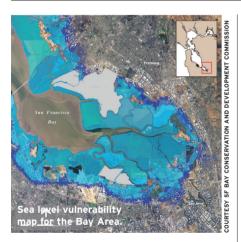
TO GALLERY

THE FOAM HOUSE

FEATURING BIM: THE NEXT LEVEL

WHITHER WESTWOOD?

05 EAVESDROP 27 DIARY 29 MARKETPLACE



NEW AMENDMENTS TO SF PLAN ADDRESS CLIMATE CHANGE

On the Level

On October 6 the San Francisco Bay Conservation and Development Commission (BCDC) unanimously approved an amendment to the San Francisco Bay Plan to address sea level rise. The plan, originally completed by BCDC in January 1969, includes policies to protect the Bay and guide development of the shoreline. It now more explicitly addresses the need to adapt local infrastructures, ecosystems, and communities to confront continued on page 5



LA UNION STATION FORGOES **ALL-STAR SHORTLIST**

PARING DOWN

The Los Angeles Metropolitan Transportation Authority (METRO) in early November revealed the shortlist for its Union Station Master Plan RFIQ (Request For Information & Qualifications). The agency is seeking a team to oversee the redevelopment of 42 acres of land and up to six million square feet of entitlements around the station.

"In addition to creating a model for Transit Oriented Development in the region, it is now important that the property be planned with an eye to its role as the center of regional transportation," read an official METRO document released by its executive continued on page 3



Choppy Waters

In early November the once-humble Newport Balboa Fun Zone, a 75-year-old amusement Harbor Nautical Museum, now officially known as ExplorOcean, solidified plans for

revamping its facility, which will include not only a major new building and an entertainment pier, but the partial removal of the park that's become a low-tech institution in Newport Beach. continued on page 8



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Santa Monica College Theatre, Santa Monica, CA Architect: Renzo Zecchetto



2000 Avenue of the Stars, Century City, CA Architect: Gensler

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E ? Before attending the Urban Land Institute conference in Los Angeles in late October, I had high hopes for the organization's agenda to get developers, WHO CARES ABOUT ARCHITECTUR architects, and planners out of their respective corners for some real dialog at the same table. After all ULI just hired one of LA's smartest urban thinkers, ex-planning director Gail Goldberg, as their LA director. And they promised to parse what's gone right recently in Downtown LA through adaptive reuse, smart planning, and the creation of new mixeduse destinations, among other things.

I respect ULI and what it has achieved, including its consistent advocacy of sustainability, transit-oriented development, and affordable housing. But by the end of the conference, I was depressed to face the fact that ULI and big-time real estate developers don't care enough about architecture. While a few sessions addressed the importance of design to solve real urban problems, it's still more often considered the icing on the cake, a marketing tool. and not a significant factor.

At a Q&A panel featuring ULI directors and assorted real-estate power brokers, I asked the question, how are you promoting design as a tool for bringing value to developments? They looked at me like I was from another planet. Later, an architect from San Francisco told me he had volunteered for a ULI subcommittee for over a year but dropped it when he picked up a vibe that the developers there really didn't want to mix with the hired hands.

What better proof of the exacerbating reality that architects need developers but developers, it seems, don't think they need architects. Our job is to convince them otherwise. Our membership institutions, whether the AIA or someone else, need to develop data showing how good design can lower long-term costs, raise value, and enhance the developer's image. They also need to reach out to groups like ULI and develop policies to force developers to take another look at their options.

Good design can solve problems, enhance the public realm, and create a lasting legacy of value. Somehow architects have cut themselves off from the money people, as if developer types were bad company. Get over it! Take time to learn the developer lingo; mingle with the suits; figure out how to finesse the formula projects to make them better.

I saw only a handful of architects at ULI. This should change next time around. Not too long ago in Los Angeles powerful and talented firms like Pereira and Luckman, Wurdeman and Becket, A.C. Martin, and Gruen Associates and even smaller shops like Jones and Emmons and Palmer & Krisel were intimately tied in with developers and politicians. Of course firms still do work closely with power brokers, but not always the most talented. Design firms need to continue this legacy, not operate on the margins.

To borrow the language of Occupy Wall Street, architects are in service to the 1 percent, designing primarily for the richest institutions and clients. Why cede the rest of the jobs? It only leaves the profession vulnerable in bad times, as in right now. In the U.S. most structures don't even require a registered architect to be completed. No wonder architects abroad are not only more respected but more solvent.

New efforts such as Gehry Technologies' push to put architects at the lead of digital building management are helping architects seize control of the building process. But that is just part of it, especially until the cost of BIM software comes down. If we want to join the big boys we have to take a seat at the table, not wait for it to be offered. We need to involve ourselves with work that has largely been off limits. We need to convince developers that we should and must be partners in the process. We need to play ball, as they say in the business world. SAM LUBELL



PARING DOWN continued from front page management committee.

Shortlisted teams include: EE&K. a Perkins Eastman Company; Gruen Associates/Grimshaw Architects: IBI METRO will redevelop 42 acres of land around LA's Union Station

Group/Foster + Partners; Moore Ruble Yudell METRO statement, was "evaluated for and TEN Arquitectos; NBBJ/Ingenhoven Architects; and Renzo Piano Building Workshop/Parsons Transportation Group.

the list were those that didn't make the cut. They included heavyweights like Morphosis, OMA, RTKL/Zaha Hadid Architects, SOM, Gensler, AECOM, Johnson Fain, Sasaki Associates, and Barton Myers Associates, to name just a few. Also missing was Arup. who according to multiple sources bowed out of the competition at the last moment

due to conflicts, leaving several teams scrambling to find new engineering partners.

Each shortlisted team, according to the qualifications and technical competency" and will receive a stipend of \$10,000 to complete their plans for the RFP. METRC Perhaps even more notable than those on could not be reached to confirm that amount, but several local architects complained that it was far too low. "I've seen more competition money coming from small colleges in Hong Kong," noted one architect.

According to METRO, a winning team will be selected next March or April, and the master plan should be completed by August 2013. SL



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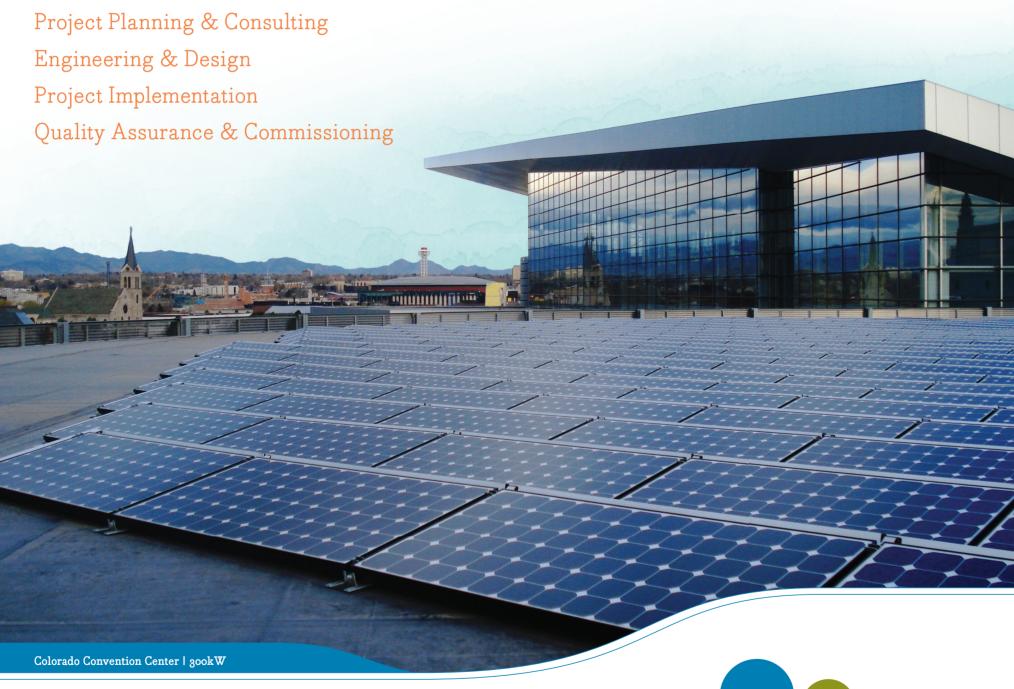
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Leave it to architects to give current events their own spin: For Halloween this year the marketing staff in the Ontario, CA, firm HMC Architects camped out inside their own offices dressed as occupiers. Yes, that meant tents, barbecues, port-a-potties, cardboard signs, beach chairs, and ugly clothes. Pictures leaked onto Facebook and opinions began to fly: Some saw it as goodnatured fun; some as a slap in the face to the real occupiers. From our perch on the fence, we give them points for design verisimilitude. Bringing a Port-O-John to work? Thorough!

E RIGH I PER(

Our friends at Michael Maltzan Architecture have shown themselves to be true friends of the 99 percent, and the 1 percent. MMA have built several outstanding projects for Skid Row Housing Trust and Inner City Arts in LA. But now we hear that the firm is also building a 36,000 square foot, \$100 million home for a billionaire in Austin, Texas. Architects are just so good at covering all the bases.

Just when we were getting used to Behnisch Architekten having an office in Venice, we learn that firm leader Christof Jantzen is taking off, and the office is closing. Jantzen is starting his own firm, Christof Jantzen Architects, just down the block. "It was an evolution," said Jantzen, who expects to hire some of the Behnisch staff. Speaking of break-ups, we also hear that the visionary, and married founders of LA installation gallery Materials & Applications-Jenna Didier and Oliver Hess-are calling it quits. In 2008, their performance marriage/art project at the Cornfields Park in Downtown LA was featured in the Vows section of the New York Times. Guests planted seeds, and the bride wore laser-cut polyesters. Can't Angelenos keep it together anymore?

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EAVESDROP@ARCHPAPER.COM

ON THE LEVEL continued from front page the effects of climate change.

According to the "Sea Level Rise Interim Guidance" document presented by the California Climate Action Team in 2010, about 330 square miles of low-lying land level rise. For instance San around the Bay area may be vulnerable to sea level rise over the next century. Local sea levels are expected to rise 10 to 17 inches by 2050, 17 to 32 inches by 2070, and 31 to 69 inches by the end of the century.

"With all the focus on climate change within the science community and the planning and design community it made sense for the Commission to take another look at its policies and see how to integrate this new scientific information to our current planning strategy,' said Joe LaClair, Chief Planning Officer at BCDC.

The BCDC's updated plan will, among other things, promote wetland protection by ensuring that buffer zones are incorporated into restoration projects situated on tidal marshes and tidal flats; protect the shoreline from future flooding through zoning and development regulations; limit permitting in vulnerable zones; and only provide public access to areas that are sited to avoid significant adverse impacts from sea-level rise.

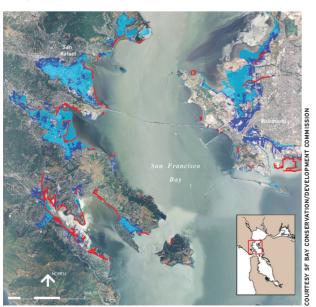
The amendments, which still must be approved by the State Office of Administrative

Law and the National Oceanic and Atmospheric Administration, won't take effect until late this year or early 2012. But the commission has already asked a few development projects on the boards to address sea Francisco's 535-acre Treasure which is the first citywide Island/Yerba Buena Island project was elevated to allow for up to 55 inches of sea level rise, while wetlands have been incorporated into its northern section to act as buffers for tides.

The effect of sea level rise on planning and development improvement of natural has become a national issue as well. Last March the New York City Department of City Planning implemented a new waterfront plan, Vision 2020: New York City Comprehensive Waterfront

Below: The map details areas potentially exposed to sea level rises between 16-inches and 55-inches.

Plan, a ten-year strategy for New York's 520 miles of shoreline. The outline, plan for the waterfront in nearly two decades and the first-ever comprehensive plan for the waterways themselves, increases the city's adaptability to climate change and sea level rise through the restoration and waterfront areas along the New York Harbor, including more water transport, increased public access and economic development along the working waterfront. DANIELLE RAGO



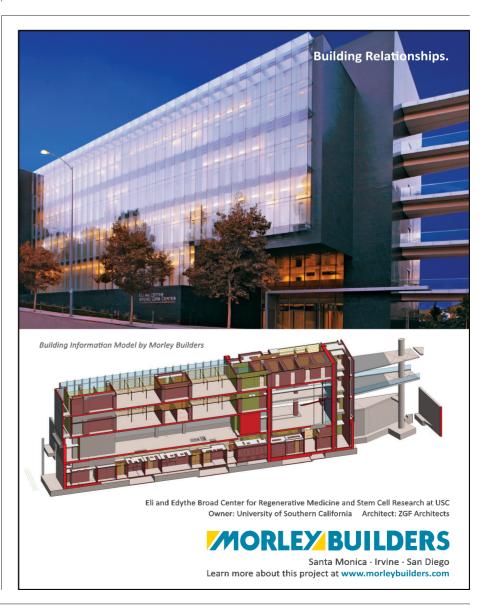
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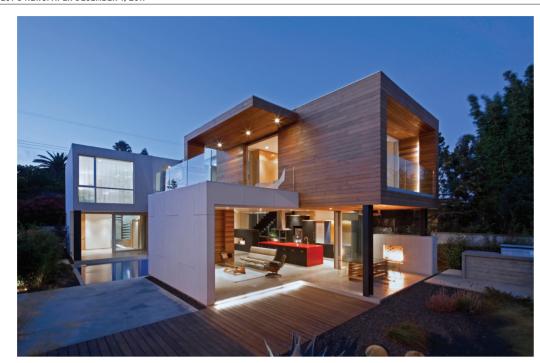


One of the hidden gems of Los Angeles is the lush Descanso Gardens, located in the small town of La Cañada Flintridge, on the property of former LA Daily News owner E. Manchester Boddy. Contemporary architecture is a rarity in this area full of landscape and history, but a notable exception is the new Sturt Haaga Gallery of Art, an adaptive re-use and expansion of the historic Boddy House garage into art spaces by architects Frederick Fisher & Partners.

Two galleries have been fashioned from the landmarked Boddy space, which had to be "rebuilt from the inside out," as Fred Fisher put it, maintaining the historic shell but completely updating the rest. A third gallery was built from scratch and then camouflaged with green screen structures and tucked into a hillside with an additional outdoor room added for sculptures and events. "We used plant materials as brush strokes," explained Fisher. Inside, the new gallery features 12-foot ceilings, a large skylight, and indirect lighting around the perimeter. In the existing spaces skylights could not be installed due to preservation restrictions, so much of their lighting is created through tucking fluorescent lights behind fabric and plastic scrims to establish a uniform illuminated surface.

"We wanted to create these very calm, serene spaces for viewing small scale works of art," said Fisher, noting that the light helps the spaces feel much larger. "It feels like it's really expanding because of the quality of light." **sL**









Above: The facade's cube-like shapes and Interlocking planes recall classic modernism, but its lightweight foam construction is futuristic. Below: Indoor/outdoor patio (left) and open-plan living space (right).

The 2,400-square-foot Superb-A House is a radical in disguise. From the street, it seems like just another cubist addition to the growing roster of crisp, modestlyscaled residences that make Venice the most rewarding showcase of contemporary residential architecture in LA. However, the home's cedar siding and cement board cladding conceal an innovative structure that could as fire resistance. Best of all, transform the building industry. The walls, upper floor, and ceiling down to \$250 per square foot. are composed of modular, selfreinforced panels of styrofoam, slotted into a steel frame.

Minarc, the partnership of Tryggvi Thorsteinsson and Erla Dogg Ingjaldsdottir, took this product, manufactured by a small Nevada company for infill in commercial and industrial buildings, and adapted it for residential use as a novel system of prefabri- building bureaucracy is firmly cation. The foam is lightweight and offers high levels of acoustic and thermal insulation as well the cost of construction was held

Panels were shipped to the site in two truckloads and swiftly installed. Inset metal flanges pro-

for a diagonally braced shear wall. be rented out without adding Drywall was glued or screwed to the inner surface of the panels, and turned this irrational prohibition their outer surface was wrapped with a waterproof membrane.

Of course, in a city whose committed to the status quo, it took two years to win approval to use this system of construction. But the clients' patience has been slats that provide privacy while richly rewarded by the end result. giving the owners a visual link Each of their soundproof work studios had to be connected to the master suite in order to satisfy regulators who were

vide the required resilience, even fearful that detached rooms might ceiling. The concrete floor has more parking spaces. Minarc has panels above provide hot water. to their advantage by opening all three rooms to decks that pull in ocean breezes and provide tables with stacked wood bases sweeping views over neighboring complement classic Eames seatbungalows.

> The corner site is fenced off with rusted steel plates and wood stair with glass treads leads down to passing traffic. A shallow pool filled with fragments of blue glass covered terraces. Cross ventilation flanks the entry and casts rippling keeps the open-planned house reflections onto the living room

radiant heating, while solar An open kitchen is defined by a red Corian island with customdesigned stools. Glass-topped ing. A steel stair is cantilevered from the far wall, and a spiral from the studios. Aluminumframed windows open two ways, and sliders open each room to cool on the hottest days.

Minarc is currently designing a second residence with this construction system, and the two architects have won a competition in conjunction with Habitat for Humanity and the Global Green consultancy to build five low-cost houses for Restore Neighborhood Los Angeles, a city agency. There, Minarc is using foam to build at \$125 per square foot and achieve net zero energy consumption. The firm's kit of parts deserves to become a standard for residential construction, in LA and beyond.



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Chapter III

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WINGING IT continued from front page

plasticity. Sitting on a tight half-acre site, its roofline will curve up like the prow of a ship, making it readily identifiable and marking the boundary between inside and outside. Hadid's office posted renderings of the project on its website, while London-based Rove Gallery has also published one of Hadid's mixed media paintings named "La Jolla Residence" online. Information revealing anything about the clients has been much harder to come by.

The La Jolla Community Planning Association, which advises the city on local land matters, appealed the owners' application for a Coastal Development permit. Public principal James Brown has called the association the "anti-Zaha coalition." Its members claim that the project violates the local planned district ordinance and also complain that the house is, as member Ed Furtek put it at a meeting, "significantly different from other neighborhood homes." Another member,

Dale Naegle, went further: "If we approve this we might as well abandon our La Jolla Shores Planned District Ordinance. It is a beautiful house, but it doesn't fit."

But the planning commission unanimously denied the appeal and upheld the project.

"I was quite taken with the design," said Planning Commissioner Eric Naslund, who is also a principal at San Diego firm Studio E Architects. He noted that the house did not violate FAR or setback rules and was "respectful" of its surroundings. "There are certainly other houses of that size and scale in that neighborhood," he added.

The La Jolla Community Planning Association would not comment on whether it planned to make another appeal, but if that happens, the project would have to seek approval by the city council, a hurdle that Brown admits is much more challenging. "There's nothing about city council with a design attitude," said Brown. "It's 100 percent politics." SL





CHOPPY WATERS

continued from front page

The Nautical Museum began 25 years ago inside a small wooden building filled with maritime artifacts. It's now located inside a renovated office space. The redesign, led by Irvine-based architecture firm LPA was reported by the L.A. Times to cost an estimated \$40 million, although the museum would not confirm that figure. The plans include a 34,000 square foot, threestory, glass and steel structure that would include a new theater, a submarine simulator, and a "navigation lab." The scheme also includes a themed "adventure pier," containing a

new Ferris Wheel, as well as a roof plaza, an outdoor dining terrace, and a ground level public plaza. The building will be sheltered with an angled roof—fitted with a 12,000-square-foot photovoltaic array—that will protect the outdoor environments and shape a new entry space. Twentyfive-foot-tall growing walls will surround the structure on three sides. Completion is will come from private and scheduled for 2015.

But some are not happy with the proposed changes. Early November saw a rally of over 50 people against the Adventure Pier led by the group, Project: Save The Fun Zone. The Fun Zone already lost attractions such **STEPHANIE JONES**

as bumper cars, a tea cup ride, and its "spooky night ride" when NHNM took over the lease in 2006. "Without the Fun Zone our history is a mystery" is one of the group's catch phrases.

Much of the project's

support comes from the city itself. "Whenever you change a known entity, no matter how good or bad it is, there will be push back," said LPA's Rick D'Amato, lead project designer for ExplorOcean. "What you are not hearing is the overwhelming support for the project within the community, which includes city staff and council. While we lost the merry-go-round, the Ferris Wheel will become an integral part of the new water front Adventure Pier." (The carousel had been at the Fun Zone since the 1985 and will be moved to nearby

Funds for the project corporate sponsorship, according to D'Amato. The museum currently houses an on-site preview center with a computer fly-through intended to win over those who may not have made up their minds about the project.

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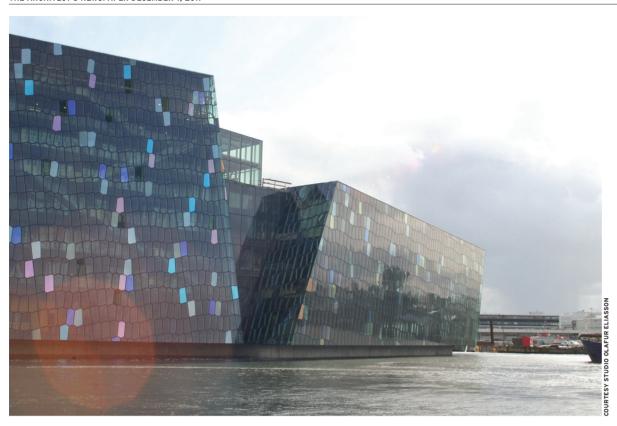
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Highly customized glass fabrication technologies have never been so in demand, but as architects push for never-before-seen designs at ever lower prices, they are learning that some risks don't pay off. When they do, however, the results achieve a brilliant crystallization of glazing art and science. By Jennifer K. Gorsche

> Last spring, the Port Authority of New York and New Jersey shattered a dream when it dropped SOM's plan to clad the base of One World Trade Center in prismatic glass. The design element was meant to emanate "splays of color" from the building's podium, but after several years and design development, the team had developed a full-scale found itself without a viable sample. It had paid to build specialized equipment to cut 1-inch-thick, 48-by-159-inch glass panels with a grooved, pointed pattern, then temper the prismatic sheets and laminate them to strong

barrier glass.

The project was going to be an exemplar of architecture's best hopes for the future of glass: huge panels with a highly customized, carefully fabricated visual quality that could meet strict safety requirements. But during impact testing, the panels broke into large shards rather than holding together as laminated glass should. The team finally announced the design was too technically difficult to realize. Or was it? Nathan

Munz, managing director of Australia-based glass fabricator Glassform, said that he manufactured a sample of viable prismatic facade glass after being contacted in May 2010 by a project manager with Solera/DCM, the contractor charged with installation of the podium facade. According to Munz, Glassform made the list of approved fabricators for the project, along with Ontario-based Barber Glass Industries, before Solera's fabrication subcontractor. Las Vegas-based Zetian Systems, gave the fabrication work to Sanxin Glass in Shenzen, China. Barber, too, was contacted in March 2011 about getting back on board with the project; the company mockup for the project in 2009, before going into receivership last year.

When it seemed as if option A had failed, the team "started getting worried because they had a project to deliver and the Chinese

friends were not supplying even small samples," said Munz. "They started calling people to see if there was an option B." Glassform developed a sample without accepting fees and sent it to New York the following month. "I had meetings with Solera and their engineers and they were impressed," Munz said. But he left confused after Tishman, the project's construction manager, declined to meet or to sign a confidentiality agreement about his fabrication techniques.

Munz returned to New York in October 2010 with a larger 4-by-2-foot sample, this one protected by an application for a U.S. patent and manufactured with equipment "modified in a very unconventional way."

He brought the sample to a meeting with project manager Ken Lewis and several other SOM team members. "The sun was streaming through the window and it hit the glass and these people freaked, absolutely freaked," remembered Munz. "They said it was amazing." But after Tishman again declined to meet with him, Munz was left to conclude that the construction manager had already decided to abandon the project unless it could be realized with Zetian. When contacted by AN a spokesperson for Tishman declined to comment about the project's glass.

Somewhere in a Pennsylvania warehouse, hundreds of PPG Starphire glass panels that the Port Authority purchased for the project will never see the light of day, but other buildings may soon realize what One World Trade did not. Glassform expects to release a new mass-produced prismatic architectural glass product to the market by the first quarter of 2012. (In early November a new scheme was announced for the building's base featuring back-lit glass louvers set at angles.)

In spite of the trial and

error involved in testing new designs, architects are determined to push the limits of glass technology. In most cases, innovation is more easily achieved in Europe where building teams are likely to negotiate a way to use the best product rather than incorporate more of a lower-priced option. The proximity of several glassproducing nations also fosters an adapt-or-die mentality: Italy depends on exporting its products to France and Germany, forcing them to advance their industry quickly in order to compete with

Left: In Reykjavik, Olafur Eliasson's Harpa Concert Hall facade incorporates ten types

Below: A rendering of SOM's original prismatic glass podium for One World Trade.

domestic fabricators in those

Reykjavik's new Harpa

Concert Hall and Conference Center is a prismatic addition to the city's waterfront and a glamorous example of collaboration rather than compromise. Designed by artist Olafur Eliasson with Henning Larsen Architects, the 301,000-square-foot building's south face is composed of 823 "quasi bricks" mimicking crystallized basalt columns commonly found in Iceland. Each brick is a stackable, twelve-sided module of steel and glass that Eliasson and his structural engineers designed using several digital and physical modeling techniques. The north, east, and west facades are flat variations of the south face, as if the bricks have been sliced at an angle. Ten types of glass were used for the skin: yellow, green, and orange dichroic panes reflect their complementary colors, blue, red, and purple; clear, antireflective, and five kinds of reflective glass are also layered carefully to alternately emphasize depth, solidity, or transparency at different vantage points and light levels. At night, the facade glows with more than 700 LED strips with optics developed with lighting manufacturer Zumtobel. "It has been a process pretty much like doing a painting," said Eliasson in a project presentation video. "When you have the colored glass that has a tendency to stand







glass next to it in order to give you a sense of it being a volume." The hall's foyer, balconies, and ceiling are oriented to catch light and color. The facade functions, too, standing up to Reykjavik's punishing winter winds and preventing noise from a nearby highway from disturbing concerts inside.

As advancing digital modeling and engineering capabilities allow integration of cutting-edge shapes and sizes, technical material

out, I have put a low-reflection advances are also driving new project's orthogonal glass designs. David Chipperfield's Two Lines pavilion was one of this year's London Design Festival Size + Matter commis- as long as 16 feet with processes. Chipperfield cr ed the installation with 28 panes of unframed laminated glass panels embedded with SEFAR Architecture Vision and a DuPont SentryGlas interlayer, a new fabric with a translucent single-sided metal coating. Built in collaboration with Arup, the

walls in copper and aluminum interlayers are topped with horizontal glass panels sions pairing designers with corresponding colored metal materials and manufacturing connections, giving a glimpse could be another concern for of the shimmering, diffusive quality a facade could achieve advances. "It's kind of like with the same materials. According to DuPont, SentryGlas has better adhesion with the fabric mesh than Polyvinyl butyral interlayers, increasing moisture resistance and temperature stability in the long run. The

Left: A new facade on the City College of San Francisco's Chinatown campus is printed using Viracon's high-definition silkscreen process

Below: The W Austin Hotel closed for several days after multiple glass balconies shattered. All tempered glass was replaced with laminated

Castellana 79 business and commercial center in Madrid, designed by Rafael de La-Hoz, is one of the first facade projects to be completed with the material.

As decorative patterns,

interlayers, and digital printing technologies move from building interiors to facades, understanding the sunlight testing data associated with inks and technical materials is becoming more important for architects. "These technologies are relatively new in terms of exteriors," said Bernard Lax, founder of California-based architectural decorative glass manufacturer Pulp Studio. Pulp is the only manufacturer of glass building materials using SentryGlas interlayers, marketed in North America as Chromavison. "We're still on this path of specifications that haven't been realized. You'll find there are things that are not going to be performing three to five years down the road."

As many fabricators try to get into the decorative market, similar fabrication equipment can produce radically different results depending on who is behind the wheel. "In the architectural community, the biggest problem is that designers are very influenced by sales people, but they don't do their due diligence in asking questions about the performance," said Lax.

Pulp recently lost a project comprising nearly 40,000 square feet of gradient sandblasted facade glass to a lower bidder who was ultimately not able to realize the architect's original design intent. Companies operating new digital glass printing equipment without hiring art departments to tightly control image and color quality architects as technology buying a limousine but being too cheap to hire the driver," said Lax.

As a series of balcony glass failures in Toronto recently demonstrated, poor specification practices for even simple components can end

up costing glass-heavy projects a lot of money. This summer, Ontario-based Lanterra Developments suffered a PR nightmare when glass sheets fell from the balconies of three of its recently completed Toronto condominiums. The fifth, and final, sheet to break fell from the 29th floor and hit a pedestrian below. Lanterra replaced the tempered balcony glass in all three projects with laminated glass sheets, which should remain in place even if fractured. The failures raised questions about the source of the project's glass, and whether heat-soaked glass, which has undergone a process that would reveal any inherent flaws, was specified and delivered.

A few weeks later, Seattle's NBBJ-designed Four Seasons Hotel and Private Residences experienced its third balcony failure and opted to replace its tempered glass balustrades with laminated lites as well. The W Austin Hotel, designed by Andersson-Wise Architects. also closed for several days in June when two falling glass sheets injured four people on the pool deck: three more lites fell in subsequent weeks. Again, the property owner replaced the tempered balcony glass with laminated panels. A report conducted by Curtainwall Design Consulting (CDC) concluded that debris from the building's slab edges had damaged the edges of the tempered glass balconies, which were unprotected by a top railing, causing them to shatter.

Project developers and design teams have not released the sources of the failed glass, but glass fabrication experts speculated that all of the buildings used tempered balcony glass from Chinese manufacturers as a cost-cutting measure. This glass is more likely to contain nickel sulfide inclusions. impurities that can cause breakage unless heat soaking detects imperfections, which have largely been removed from domestic glass manufacturers' products Buildings finished as the

economy slowed may continue to see problems. "The recession especially has cultivated an ignorance-is bliss type of attitude," said Lax. "Most people are so browbeaten by the time they get a project, they don't want to rock the boat. General contractors know the glass guy they hired is going to be a problem, but they can't throw him off because he

hasn't done anything wrong yet. These things snowball."

In spite of value engineering at every level, manufacturers remain optimistic about investing in new technologies. Glass supplier and fabricator General Glass International (GGI) is launching a line of acid-etched flooring based on increased demand for that type of application. The company also recently installed a new tempering furnace, allowing them to print and temper a 110-by-170-inch piece of glass (its previous capability was 84 by 168 inches). They will use it to manufacture digitally printed glass for Newark's Terminal B modernization. "It eliminates an obstacle for designers," said Richard Balik, the company's vice president. "Bigger glass eliminates the need for metal and gives them more flexibility."

And pieces are likely to get bigger—GGI's furnace can temper glass up to 110 by 236 inches, but the logistics of cutting, polishing, drilling, and storing a piece of glass that size are still being worked out in the company's plant.

"Architects are pushing us a lot," said Don McCann director of international sales for glass fabricator Viracon. "They want larger glass and to span larger openings. It's requiring us as a company to get larger fabrication equipment." As a lower-cost alternative to digital printing, the company recently launched Viraspan Design-HD, a high-definition silkscreen process that creates half-tone pixels and gradation within an image or pattern. While the designs they can achieve are beautiful, they are not just decorative: Being able to engineer a larger piece of glass into a building could mean a reduction in other materials and in interior finishout costs, and incorporating the right frit, low-e coating, or interlayer into facade glass can reduce strain on mechanical systems. "It's a first-cost savings," said McCann. If architects—and their clients are on board, they can make sure the glass works for itself. JENNIFER K. GORSCHE IS AN'S SPECIAL PROJECTS EDITOR.

ARCHITECTSLIBRARY



The Architect's Newspaper introduces a new, local online resource guide for the design community, allowing users to search their city for the products and services they need.

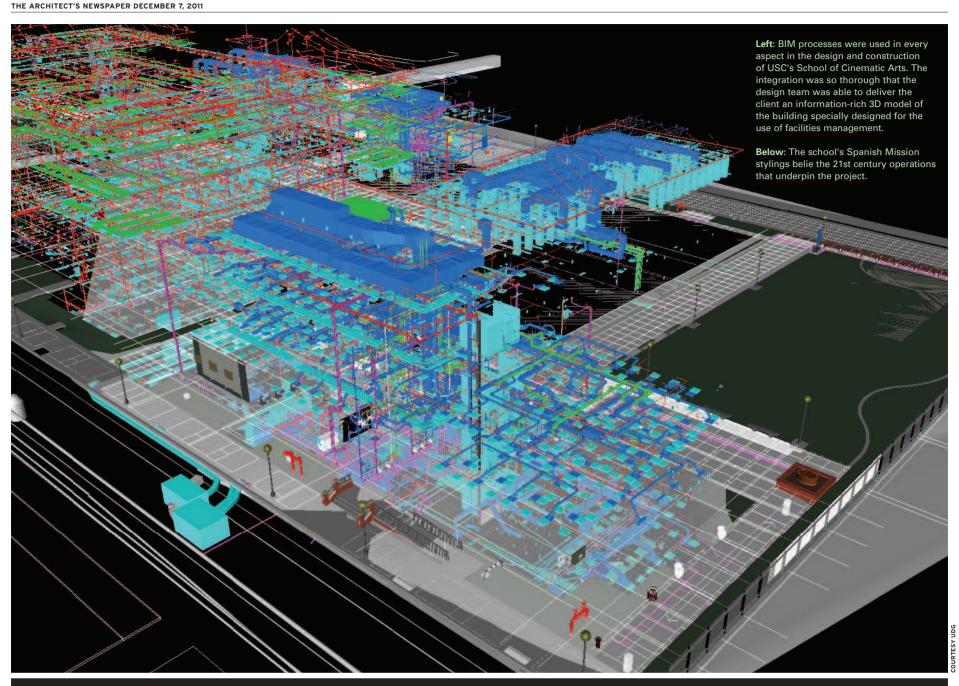
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A CLICK AWAY

ARCHITECTS KNOW THAT BUILDING INFORMATION MODELING IS CHANGING THE WAY THAT BUILDINGS ARE DESIGNED, CONSTRUCTED, AND MANAGED POST-OCCUPANCY—BUT ARE THEY REALLY TAKING ADVANTAGE OF HOW MUCH IT CAN DO? AARON SEWARD CONSIDERS THREE PROJECTS AT THE FOREFRONT OF WHAT'S POSSIBLE.



A designer stares at a 3-D model on subject will tell you about BIM a computer screen that depicts what looks like a negative of an exposed root system. In reality, it's the interior of a new museum, and it needs a structure to support its organic form, which will be rendered entirely in cast stone. With a single mouse click, the designer sets the software to work, rationalizing and analyzing a steel framework.

Elsewhere, an architect is biding his time in an airport lounge and is curious about the status of a batch of cladding panels for a project currently under construction half a world away. Taking out his smart phone, he punches up an app that streams real-time updates and even provides a 3-D representation of the project showing all of the panels that have been installed to date.

These are not science fiction the architectural profession is changing as Building Information Modeling, better known by its acronym, BIM, grows ever more sophisticated across an expanding array of applications. The first thing that anyone familiar with the

is that it's not a software, or a technology, but a process—a way of conceiving and executing architecture at the heart of which is a three dimensional, informationrich digital model. That much is well known, but over the past decade, this process has accelerated exponentially as everyone from design professionals, to contractors, to facilities managers are exploring even newer ways to put the tools of BIM to work, forcing software companies to come out with ever more specialized products to further enable their user's needs.

"If you look at the historical arch of how this thing has unfolded, it's pretty legible," said Phil Bernstein, vice president of industry strategy and relations at Autodesk. that the adoption of technology follows distinct phases. The first use of a new technology is to repeat a process you were doing before. In this case, BIM was originally in service of productivity and more accurate drawings. In the last



Above: The rectilinear exterior of the Louisiana Sports Hall of Fame and Regional History Museum gives way to a complex and organic interior geometry.

Below: BIM's parametric capabilities allowed designers to quickly develop a structural system: The software itself found and analyzed 80 percent of the connections between the steel frame and the cast stone cladding.

Right: SHoP Construction has developed an iPhone app to track progress on fabrication and installation for Atlantic Yards.

Opposite page: At the Louisiana Sports Hall of Fame, the high level of detail in the BIM model allowed the design team to give the construction team a book of connection details to facilitate installation of exterior and interior cladding systems.





stage, technology transforms the

underlying processes into some-

thing new. Now we're in that last,

sequenced, detailed, constructed,

through one integrated approach.

Information from BIM models can

be entered directly into sophisticated

CNC milling machines for flawless fabrication. They can control earth-

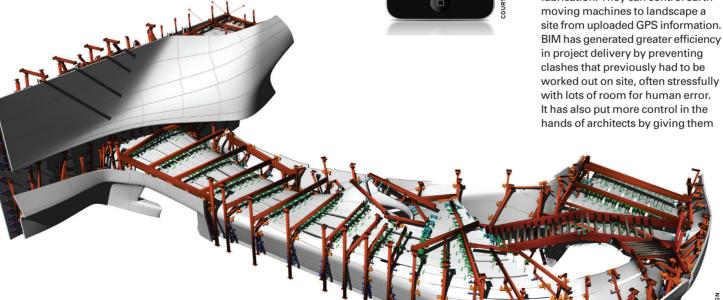
moving machines to landscape a

and managed post-occupancy

Today a project can be designed,

transformative stage."

engineered, coordinated,



an easy-to-understand model that increases the ease and level of communication with clients and subcontractors wary about difficult conditions.

This latter was certainly the case with Trahan Architect's Louisiana Sports Hall of Fame and Regional History Museum in Natchitoches. The 28,000-square-foot project's interior responds to the swampy geography surrounding the Red River Valley with a fluidly flowing form rendered in cast stone panels. "We felt like if we were going to do something that unique and different that we had better fully understand the integration of systems and components," said Brad McWhirter of Trahan. "A BIM model was an absolute necessity from the owner's perspective to eliminate the concerns someone might have if they are used to looking at 2-D sets of drawings. It also helped during bidding, so subs couldn't say that what we wanted to do was impossible."

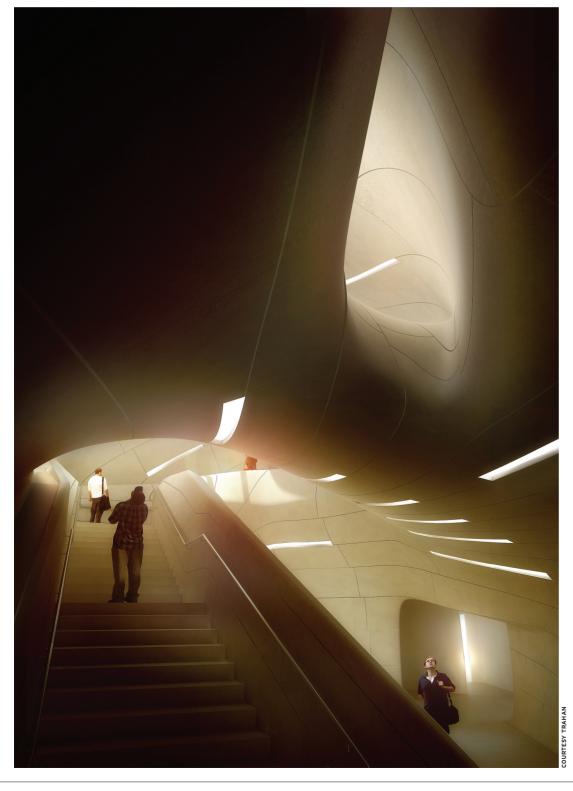
Trahan and its design team worked with two outside BIM consulting firms, Case Building + Technology, which handled overall project coordination as well as the fabrication of the stone panels, and Method Design, which worked with the structural engineer to detail the highly complex system that supports the panels.

Both consultants explained that without BIM, the project would not have been possible, at least not within its current time frame (the design schedule was 20 months) and budget of \$12.6 million. "In this project, the sheer complexity of geometry requires 3-D," said Case partner, Federico Negro. "There are more than 1,000 panels, all of them different, and there are four to 15 connections per panel, shooting out in all different angles. If you don't have a good way to find objects, get to them quickly, and understand how relationships work, then you don't have a way to manage the design. You can't draw an elevation of this skin. It's never orthogonal."

The geometrical form-finding capabilities of certain BIM software make it easy to develop and rationalize complex shapes. It also makes it easier to guide those forms through fabrication and construction. Case took Trahan's Maya and Rhino design files and used Digital Project to panelize the geometry. Once the panelization was complete, the structural engineers got their turn at the model, using Rhino and Grasshopper to do structural form finding and analysis, and to design parametric modeling capabilities allowed Method Design to find 80 percent of the project's load paths and connection points with the click of a button, leaving the remainder to be puzzled out manually. Doing that work by hand in 2-D drawings would have taken enough manhours to make the project unfeasible.







"The technology allows you to minimize the thinking you have to do," said Reese Campbell of Method. "All of the steel goes through a series of algorithms that read the connections, rationalize intersections, and conduct structural analysis." After the structural work was done, the model went back to Case, which took the panels—now outfitted with ment people work together. You fully detailed connections—and sent rarely see that. When that happens them out for automated fabrication. The BIM model also helped during installation. Method printed out a 72-page connection catalogue that construction workers used on site to understand how each panel connects to the steel structure.

In addition to providing tools for designers who want to create projects of great geometrical complexity, BIM is helping the profession data relating to materials, machine keep track of a project's budget. SHoP Architects, who have been working with BIM since its very first project, an environment for P.S.1 Contemporary Art Center in New York, used the process to address both form and finance at the Barclay's Center in Brooklyn. "When we were developing the facade design for the arena, we used BIM processes to understand the geometry and the material, how each material fed into the cost matrix, and to share information with the client and the facade manufacturers," said Jonathan Mallie of SHoP. "During the design phase the real key for us was to manage the form and link it to a definable budget."

SHoP worked with Rhino and CATIA during initial form finding, then with CATIA to link the design of the facade's panels to seamlessly flow into fabrication. Once the form was found, the model was brought back into Revit for the coordination of the base building structure, the HVAC, and MEP.

SHoP chose weathered steel panels for the exterior, and developed an iPhone application that allowed the architects and the client to track the weathering process of the panels, as well as their installation, "Having the technology enables us to push design further," said Mallie. "It takes a lot of ambiguity and gets it out of the way, and because it's a model, it's something people can see, and we can get everyone on the same page."

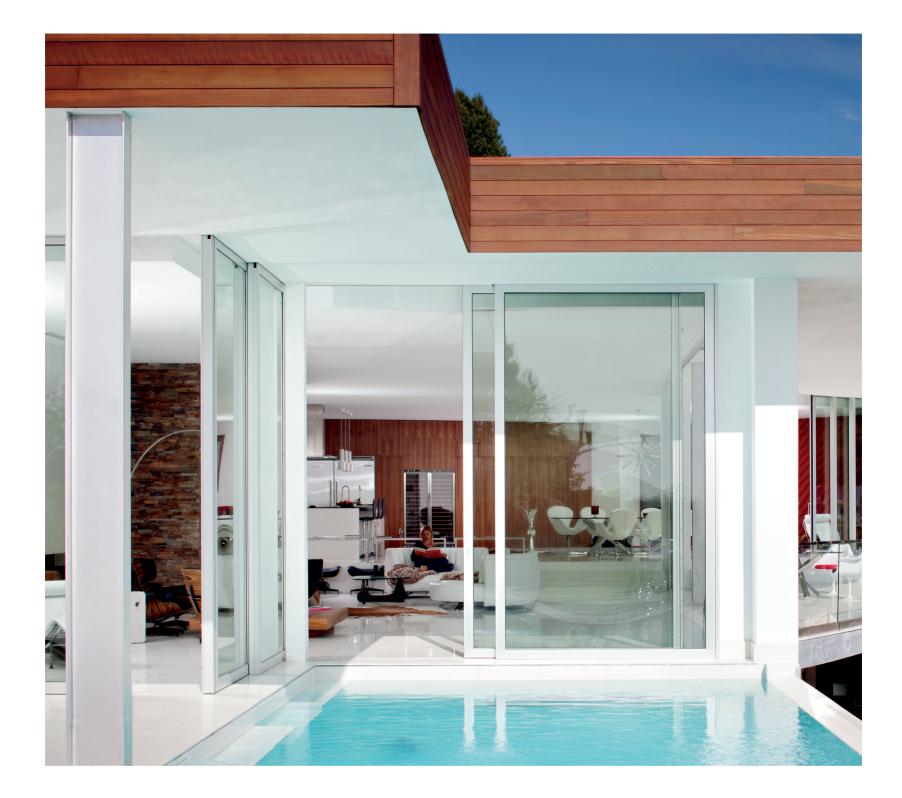
It would be a mistake, however. to think of BIM as merely enabling unconventional form-making. While advanced geometric modeling tools like Rhino and CATIA get a lot of attention for the designs that they are used to produce, D modeling software within the BIM process is more often used and valued for the sheer level of information (and thus the high degree of detail) that can be programmed into models. At the University of Southern California's new School of Cinematic Arts Complex, the potentialities of these models have not only been used for

the design and construction of the three-phase project, but also are being used for post-completion management of the building.

The university's approach is unusual for academia according to Ray Kahl of Urban Design Group (UDG), the architect on the project: "Their facilities and capital developyou get a situation where you can justify what may not be the lowest upfront cost for a project but will be lower over the lifecycle of the building."

UDG delivered a model for the arts school embedded with all of the data points necessary for the university's facilities group to maintain the structure, including names, and model numbers. While the model is replete with information for building management, it allows the facilities team to develop personas that filter the data to only show information that applies to certain functions, such as cleaning, or repairs. The architects also worked with Honeywell to integrate the BIM model with a building monitor system that gives facilities mangers a visual representation of the building showing every room, whether the lights are on or not, and what the temperature is at different times of day. The feature has led to 20 percent greater efficiency in the building's energy usage than originally expected.

While BIM has yet to become the industry standard for project delivery—in part because it's still too expensive for smaller firms to use—its influence is growing with each success story. The process is still evolving as players compete with Darwinian energy to see what works best and fastest. Software companies in particular are trying to figure out what complementary systems will prove most advantageous. "People are saying, I can use BIM to look at different business models of how I deliver my project, I can use it to drive digital fabrication, I can use it to help me take on a much stronger sustainability agenda," said Bernstein. "It's in the process of changing roles and relationships." Architects are still discovering the implications of these different uses and the transformative effect it may have on the profession. Bernstein continued, "I believe in ten years people will be working in fundamentally different ways than they are now." And clearly those who best anticipate the range of transformations possible will be in the best position to control the new shape of building. NEW YORK-BASED WRITER AARON SEWARD IS A FREQUENT CONTRIBUTOR



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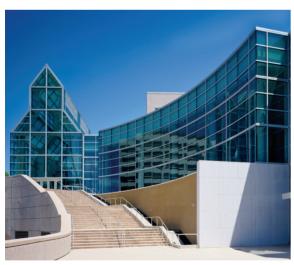
TRENDS

MOVEIT

The way we work is changing: A team that is relevant to a company one day is obsolete the next, but time and money to redesign office space is scarce; collaboration is essential, except when privacy is even more essential. Sliding doors, modular walls, and dividing systems are offering an answer to the ever-changing needs of office environments. New hardware, bigger doors, and more customizable options allow teams to collaborate, cluster, or create individual work areas with a few

simple moves. New movable wall systems aren't just for looks, either. Large pieces of glass let in more sunlight, increasing natural lighting and decreasing energy consumption in open-plan layouts. In residential and retail, environments, sliding doors are stretching the length of a room, creating more functional space in smaller environments and seamless transitions between indoors and out. JENNIFER K. GORSCHE finds some clear winners among the newest wall-to-wall innovations.











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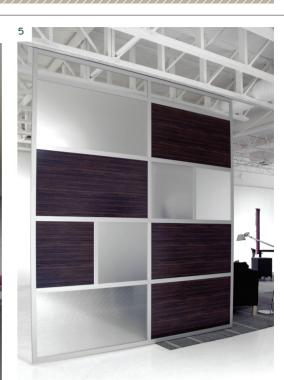
















1 EXTENDO KLEIN (SEE PAGE 14)

Klein's new Extendo telescopic sliding door system can create clear openings more than 16 feet wide for office, residential, and hospitality applications. Its synchronized mechanism fits ADA opening force requirements and eliminates floor tracks. It supports exposed and recessed installations and pocket and standard wall designs.

www.klein-usa.com

2 INVISIBLE SLIDING WALL VITROCSA (SEE PAGE 14 AND COVER)

Using slender %-inch vertical jambs in all units, including very tall double-glazed sliding units, Vitrocsa can create almost invisible movable walls. Manufactured in Switzerland and assembled in the U.S. by Goldbrecht USA Inc., the system has been tested to U.S. AAMA and WDMA standards.

www.vitrocsaUSA.com

3 GENIUS WALL SOFT STOP

KI has designed a soft-stop sliding door option for its Genius movable wall line. The mechanism is activated when a user opens or closes a door, automatically catching the door and gently bringing it to its final position softly and quietly. Designed by Eberhard von Huene & Associates the Genius series incorporates acoustical control and functionality in a range of styles.

www.ki.com

4 FILO MODERNUS

The new Filo office system from Modernus features a floor-to-ceiling design with no visible metal frame. Modules are delivered pre-hung and are available in custom sizes and finishes. Door panels are rabbeted and coplanar on both sides. Modules incorporate innovative door technology including flush panels, tension bars, concealed hinges, magnetic latch sets, and gaskets.

www.modernus.com

5 GLIDE SLIDING PARTITION LOFTWALL

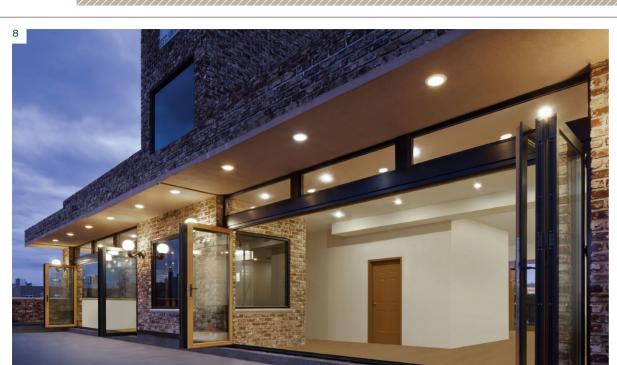
Glide is a modular sliding room partition system that is ceiling-or overhead-mounted to a track, available in standard 4-, 6-, and 8-foot widths as well as custom sizes. Glazing options include a range of designs and materials, allowing the system to work for closets, rooms, offices, conference areas, or open spaces in need of flexible partitions.

www.loftwall.com

6 CLAD-WOOD SERIES LACANTINA

LaCantina's Clad-Wood series is designed for applications with extreme temperatures and weather in which a wood door or window interior design is desired. Built with a heavygauge extruded aluminum-clad exterior and two wood species options, the system can accommodate up to eight folding panels in each direction.

www.lacantinadoors.com











7 PK30 SYSTEM PK30

PK30 designs glazing framework systems for residential and office applications. Components are extruded from recyclable aluminum alloy with up to 30 percent recycled content. Snap-in glazing stops compatible with any material enable complete installation before glazing and simplify repairs or replacement.

www.pk30system.com

8 WA67 NANAWALL

Operable glass wall manufacturer NanaWall has designed the first folding glass wall system that meets Passive House Standards for zero-energy buildings. Able to span openings from 3 to 39 feet, the system is designed with high-performance triple-glazed windows that meet Energy Star requirements in the United States and Canada.

www.nanawall.com

9 CULINARIA BARTELS DOORS

Bartels Doors USA has introduced the Culinaria door for residential and commercial dining rooms and kitchens. Inscribed with multilingual culinary terms, the door is available in customizable frame, size, hardware, and hinge options (pictured), and with

frosted glass and sliding barn

www.bartelsdoors.com

door hardware.

10 ACME 50 INSCAPE

Inscape's new Acme 50 seamless glass wall system is a slim-profiled space divider designed to enhance the transparency of private offices and conference rooms. Specialty glass, hardware, and door options are available for the 98 percent-recyclable system.

www.inscapesolutions.com

11 OTTOBOX BURKHARDT LEITNER

Burkhardt Leitner's modular room-in-room Ottobox system can reduce office space conversion costs and create easily movable spaces for meetings, play areas, temporary ad campaigns, or concessions. The aluminum, steel, and glass system is available with casters, custom colors, graphics, and axial dimensions.

www.burkhardtleitner.de/en

12 STRUCTURAL FRAME ELEMENT PURINFORM

PURinform has introduced a new structural frame element consisting of a doorstop module and a decorative module, which create a flush, uninterrupted frame unit. The profile is available in satin, brushed stainless steel, or polished chrome finish, in addition to a broad range of colors, surfaces, fittings, and glass panels.

www.purinform.de



1 MIN COLLECTION FTF DESIGN STUDIO

Launched this summer by husband-and-wife design team West Chin and Roseann Repetti, the "min" collection includes four flush-mounted designs: the S min door pull, the L min cabinet pull, the D min sliding double-door pull, and the D2 min (pictured) sliding door pull. Finishes include dark statuary bronze, satin nickel, and powder coated white.

www.ftfdesignstudio.com

2 DAVID CHIPPERFIELD DESIGNS FSB

Designed for domestic and public spaces alike, David Chipperfield's new door levers for FSB are supplied with AGL heavy-duty bearings, with standard bearings, or with a fire-safety version depending on the project's needs. The collection includes a framed door handle with a straightedged rose. Available in aluminum, stainless steel, or bronze.

www.fsbna.com

3 SOFTMOVE 80 HAWA

Hawa's latest product introduction is the SoftMove 80, a self-closing system designed for integration with the company's Junior 80 sliding hardware system. It gently decelerates and closes doors based on their size and ideal sliding speed. The hardware is suitable for wood and glass sliding doors and for use on the opening and closing side of the door.

www.hawa.ch

4 ULTIMA PULLS OMNIA

Omnia recently introduced the Ultima line of hardware, a collection designed for a wide range of residential drawer and cabinet applications. The pieces are available in six sizes, ranging from 4 to 18 inches. Made of solid brass, the hardware is available in three finishes: oil-rubbed bronze, satin nickel, and polished chrome.

www.omniaindustries.com

5 MANFRED FRANK MICROMASTER HINGES INDEX-D

Manfred Frank's Micromaster hinges are rated for door panels between 440 and 660 pounds with installation of just two hinges. They are suitable for most swinging panel-mounting applications including tall and wide panels. A patented 3-D, self-locking technology allows the hinge to be adjusted by one person with a small tool.

www.index-d.com

6 SERIES BESS VALLI & VALLI

Designed by Yoshimi Kono for Valli & Valli, the Bess series is designed to give each piece a sense of lightness while offering ergonomic shapes in a full range of coordinated accessories for use throughout the home. The Nikrall Zamak alloy base is available in brass plate, satin, and polished chrome finishes.

www.vallivalli-us.com



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www.poliformusa.com

2 OPENSPACE SHOWER

Duravit collaborated with design group EOOS to create a new shower with doors that fold in to conceal fixtures and toiletries when not in use. The system can accommodate the unevenness of older building walls and is compatible with tile floors and DuraPlan shower trays.

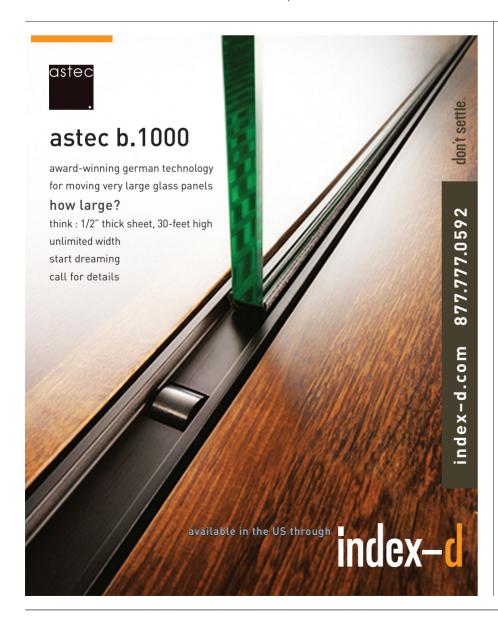
www.duravit.us

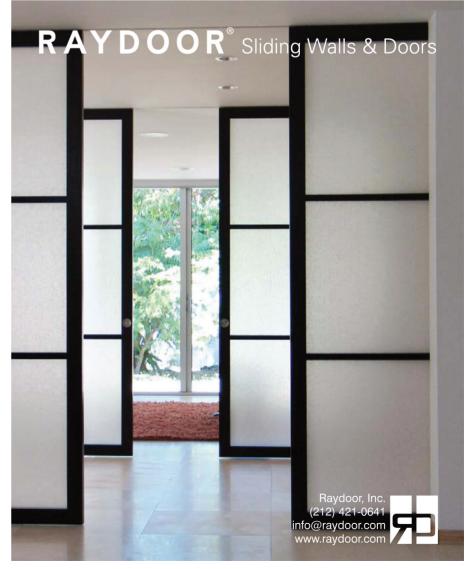
3 FLOATING SPACES

SieMatic's new FloatingSpaces design concept

offers a range of panel options designed to match the company's kitchen systems and integrate the kitchen into a home's other living spaces. Panel shelves and functional elements offer flexible organization in a range of sizes, colors, and materials.

www.siematic.us

















4 SERENITY SHOWER DOOR C.R. LAURENCE

The new Serenity Series frameless shower door system from C.R. Laurence features a low-profile

stainless steel header support bar with smoothgliding rollers above and anti-lift fittings below. The minimal hardware creates a floating look for %- or %-inch glass doors up to 30 inches wide or 88 pounds.

www.crlaurence.com

5 TURN SWING DOOR KLEINE TUREN

Kleine Turen's Turn Swing door is constructed with a new easily mountable pivoting mechanism and thick door panel designed to lie flush with a wall. Automatic-closing hardware allows the door to open 90 degrees in each direction and can be installed with most floors.

www.ktmbocholt.de/en

6 SERIES 3000 RENLITA

Renlita's Foldaway Series 3000 counterweightbalanced door is a two-leafed folding door with horizontal hinges. It can span up to 98 feet and can accept a wide variety of cladding and glazing patterns. Designed to suit commercial and industrial applications.

www.renlitadoors.com

7 PARAMETRIC WALL SYSTEM SEEYOND

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AIA SF

Peter Noever

Contemporary Art Territory '21 7:00 p.m. W.M. Keck Lecture Hall SCI-Arc 960 East 3rd St., Los Angeles

www.sciarc.edu

TUESDAY 13

LECTURE

Wendy Kaplan **American Decorative Arts** Forum: California Design: Living in the Modern Way, 1930-1965

8:00 p.m. Koret Auditorium, de Young Museum 50 Hagiwara Tea Dr. San Francisco www.adafca.org

THURSDAY 15

EVENT

AIA|LA Interior Architecture **Committee Holiday Party & Stocking Contest**

Gunlock /Allsteel Showroom The Watergarden 1620 26th St., Santa Monica www.aialosangeles.org

FRIDAY 16 **EXHIBITION OPENING**

Interface JF CHEN

7:00 p.m California College of the Arts, Oakland campus 1111 Eighth St. Oakland, CA www.cca.edu

TUESDAY 20 EXHIBITION OPENING

In Focus: Los Angeles

The Getty Center 1200 Getty Center Dr. Los Angeles www.getty.edu

THURSDAY 5 **EXHIBITION OPENING**

Hiroshi Sugimoto: Photogenic Drawings Fraenkel Gallery 49 Geary St.

San Francisco www.fraenkelgallery.com

SATURDAY 14 **LECTURE** Jonn Herschend, Will Rogan Talking Art: The Thing Quarterly

1:00 p.m. San Jose Museum of Art 110 South Market St. San Jose, CA www.sjica.org

EXHIBITION CLOSINGS Collecting Eames: The JF Chen Collection

941 North Highland Ave. Los Angeles www.mocad.org/designevent s.html

Everyman's Infinite Art Chapman University,

Guggenheim Gallery 1 University Dr. Orange, CA www.chapman.edu/art/ guggenheim.asp

MONDAY 16

EXHIBITION CLOSING Theaster Gates:

An Epitaph for Civil Rights The Geffen Contemporary at MOCA 152 North Central Ave. Los Angeles www.moca.org

THURSDAY 19

EXHIBITION OPENING Breaking Ground: Chinese

American Architects in Los Angeles (1945-1980) Chinese American Museum 425 North Los Angeles St. Los Angeles

www.camla.org FRIDAY 20

LECTURE Jesse Reiser 6:30 p.m. Perloff Hall, Decafé **UCLA** Los Angeles www.aud.ucla.edu

SATURDAY 21

EXHIBITION OPENING Clay's Tectonic Shift: John Mason,

Ken Price and Peter Voulkos, 1956-1968

Scripps College, Ruth Chandler Williamson Gallery 11th and Columbia Ave Claremont, CA rcwg.scrippscollege.edu

SUNDAY 22 **EXHIBITION OPENING**

Ellsworth Kelly: **Prints and Paintings** LA County Museum of Art

5905 Wilshire Blvd. Los Angeles www.lacma.org

EXHIBITION CLOSINGS Spencer Finch:

Rome (Pantheon, Noon, June 14, 2011) MCASD La Jolla 700 Prospect St. La Jolla, CA www.mcasd.org

Phenomenal: California Light. Space, Surface (Dual locations) MCASD La Jolla 700 Prospect St. La Jolla, CA, and MCASD Downtown, Jacobs Building 1100 & 1001 Kettner Blvd. San Diego www.mcasd.org



THE HOUSE THAT SAM BUILT: SAM MALOOF AND

The Huntington Library, Art Gallery, and Botanical Gardens 1151 Oxford Road San Marino, CA

Through January 30, 2012

The exhibit explores over 100 works of renowned midcentury furniture craftsman, Sam Maloof (1916-2009) and his circle of friends, who gathered at the Maloof residence and workshop—which have become a central part of the dynamic Pomona Valley art community—to share a meal and their common interest of hand-crafted objects. The exhibit showcases some of the earliest Maloof pieces, such as a round, plywood coffee table with walnut legs, decorative arts and crafts such as ceramic works by Otto and Gertrude Natzler (above), an office chair made for the prominent industrial designer Henry Dreyfuss, three iterations of his classic rocking chair, a table lamp by William Manker, among other objects. Visitors will also find two rare watercolors produced early in Maloof's career. The exhibit is part of Pacific Standard Time: Art in L.A. 1945–1980, a Getty collaboration spanning six months, bringing together over 60 cultural institutions all across Southern California.

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MEANS TO AN EFFECT

Phenomenal: California Light, Space, Surface Museum of Contemporary Art San Diego Through January 22, 2012

Just as the Pop Art movement was gaining traction in America and of the Getty Foundation's Pacific Britain in the late 1950s, with its use of cultural iconography and parody to defuse the painterly looseness of Abstract Expressionism, a group of artists in Southern California were challenging the discipline of materials and techniques.

Combining local car and surf culture, aerospace technologies, and an interest in heightened attention, the artists of the Light that de-materialized the object in favor of closely crafted, perceptual

Phenomenal: California Light, Space, Surface at the Museum of

Contemporary Art San Diego, part Standard Time: Art in LA 1945–1980 series, presents a unique opportunity to examine this movement with closer scrutiny. The exhibition, installed at the museum's downtown San Diego and La Jolla locations, art through the use of new industrial consists of works by Peter Alexander, Larry Bell, Ron Cooper, Mary Corse, Robert Irwin, and James Turrell, to name a few. Together with a series of related events and symposia it marks a significant and scholarly and Space movement created works attempt to recover the importance of the Light and Space movement.

> Historically accorded secondary status to more object-driven minimalist works by Donald Judd, Robert Morris, Dan Flavin, and other from opaque white through a

Left: Doug Wheeler, untitled, 1966.

artists on the New York art scene, Light and Space artists favored environment over object and looking over thinking. This perceptual approach maximized aesthetic ability through a stripping away of all but the most essential elements of experience. The minimal effects of their work led to the contested label "West Coast Minimalism." Yet the experience of their pieces, often at the scale of entire rooms such as Turrell's Wedgework V or Doug Wheeler's DW 68 VEN MCASD 11, is immersive, saturating vision with light and color so vibrant that it leaks contemporary architecture, where into and obscures the other senses.

The art is minimal but on different terms than the artists' East Coast counterparts, creating experiential depth through a narrow band of the sensory spectrum. Light and Space artists sought inspiration for their work through deprivation training, spending extended periods in sound or light proof rooms to gain increased attention to subtle differences in reverberation or illumination.

The lengths to which the artists went to produce these effects are compelling. In the exhibition catalogue, Stephanie Hanor, directorof the Mills College Art Museum, describes Robert Irwin's initial process of making his ethereal installation Untitled, 1969 out of aluminum before its final fabrication in plastic: "The convex aluminum discs, 60 inches in diameter. were sprayed with 50 to 100 thin, transparent layers of Ditzler brand auto paint over a silver white metallic ground. Spraying out from the center of the disc, Irwin worked

translucency until the disc became transparent around the edge, thus achieving immediate integration of painting and environment."

Irwin led an architectural critique of the gallery as a distracting background for such works, moving away from the object to operate on walls, ceilings, and floors. While the Land Art movement abandoned the gallery to reconsider the frame, Irwin and Turrell erased the frame, simultaneously creating seamless continuities and subtle differences between architecture and art.

Such fluid gradients between art and gallery remain relevant to digital technologies and CNC fabrication are frequently tested through small-scale installations. Relegated to the gallery, sometimes by choice but often due to technological and material constraints, emerging architect-artist firms like StudioMode, Radical Craft, and Sports have engaged a language of atmosphere that uses light, material, and color. Calibrated through a new set of digital tools, these installations explore the nature of walls, floors, and ceilings as emissive boundary conditions that project atmosphere rather than the reductive treatment given these surfaces by the Light and Space artists.

Technology used by Light and Space artists featured in Phenomenal—De Wain Valentine's and Peter Alexander's casting resins; Craig Kauffman's vacuum formed plastics; Ron Cooper's layered polyester resins; Larry Bell's room-sized dichroic vacuum coating apparatus; and Irwin's flawless acrylic polishing—was newly

appropriated from industrial manufacturing. The interest in these processes remained a means to an effect, rather than an exploration of process itself. Regardless, craft became an important driver for their work as they developed new fabrication techniques. Architecture may be poised for a similar transformation, moving beyond the novelties of technology toward the production of a new set of material effects and immersive atmospheric conditions outside the gallery, from restaurant interiors to World Expo pavilions.

In his book Nothing Less Than Literal: Architecture after Minimalism, author Mark Linder examines the role of architecture in both supporting and attacking minimalism, a discourse from which the Light and Space movement was largely absent. The book points to Donald Judd's seminal essay "Specific Objects," in which Judd, who originally aimed to be an architect, maintained the importance of the specific material object independent of context. While similarly interested in the literal as direct perceptual experience, the Light and Space artists pursued dynamic spatial fields and complex material processes honed to immaterial effect. Phenomenal reexamines the significance of this work as it relates to the dominant historical narratives of art criticism and at its best may deliver a renewed opportunity for architecture to engage the art of perception.

DAVID FREELAND IS PRINCIPAL OF **LA-BASED FREELANDBUCK.** UNIVERSITY.

THINK SMALL

Modernism in Miniature: Points of View Canadian Centre for Architecture, 1920 rue Baile, Montreal Through January 8, 2012

Curated by Davide Deriu, a senior lecturer in architecture at the University of Westminster, in London, Modernism in Miniature: representation popularized by the Points of View explores the encounter between photography and model-making between the 1920s and the 1960s.

Models, or paradigma in ancient Greek, have long been a prominent tool used by architects to clarify their ideas and help them commu-However, from the beginning of the 20th century, this tool acquired a new status. Within architectural avant-gardes, it gained autonomy and became an exploratory object in the design process.

Consequently, many architects began to feel that a model's three dimensions offered a more objective the future. They are thus situated

approach to design, in comparison to the architectural drawings subjected to the rigid codes of Beaux Arts school.

Considered as a "thinking machine" or a "laboratory space," the model was allowed, thanks to its photographic expansion, to overcome architecture's unbending representational conventions and turned into a reproducible, ubiquitous object circulating among a larger audience.

As Davide Deriu points out, what model photography may have lost in three-dimensionality, it gained in reach and visual possibilities. The resulting photographs seem to hover between the realm of documentary and fantasies of

between representation and abstraction, sign and narration.

The five sections of Modernism in Miniature display with dynamic evidence the different ways in which architects approached the genre and redefined the architectural process and its results, from models context. It may be said that these and imagery used as communication productions illustrate Foucault's tools to their role in promoting icons.

Drawing from the rich CCA collections and archives, the exhibition assembles about fifty different objects, and includes photographs of projects by Le Corbusier, Oscar Niemever, Mies van der Rohe, Lásló Moholy-Nagy, Vladimir Tatlin, Arieh Sharon, Constantin Melnikov, Carlo Mollino, J. J. P. Oud, as well as images from influential design schools from the Bauhaus to the Vkhutemas.

illustrate problems of conception and analyses scientific devices developed to help architects (and clients) to visualize the threedimensional structure of the object. They sometimes appear as abstract constructions made of heterogeneous materials, sometimes as "machines to see," which are reminiscent of Brunelleschi's perspective machine, Dürer's triangle and glass, and other kinds of Camera Lucida.

They also reveal the mutual dynamic between the object in its materiality and its ideological heterotopias: spaces of otherness. which are neither here nor there, that are simultaneously physical and mental and have more layers of meaning or relationships to

Below: Photomontage model for Sanremo condominium by Carlo Mollino and Mario Roggero, 1946.

other places than immediately meet the eve.

The four decades presented in the show seem to give ample and concrete form to what Deleuze in The Fold (1988) has designated "the new status of the object.

ANIS GHARSALLAH IS STUDYING FOR A PH.D IN DEVELOPMENT AND PLAN-NING AT THE UNIVERSITY OF MONTREAL.



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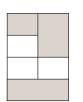
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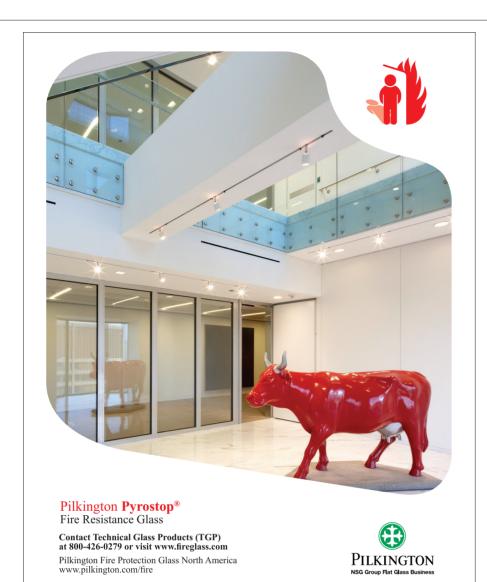
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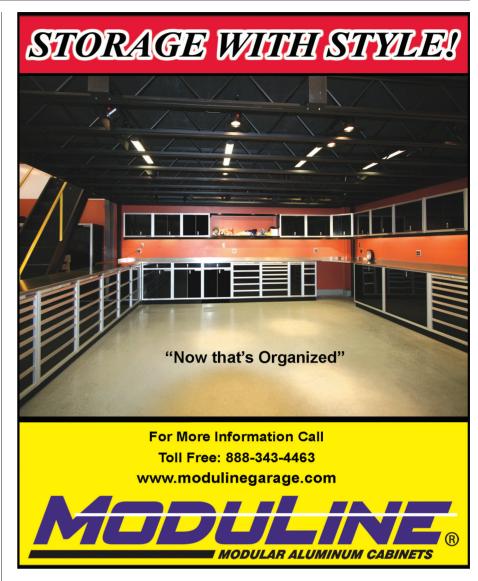
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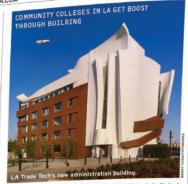
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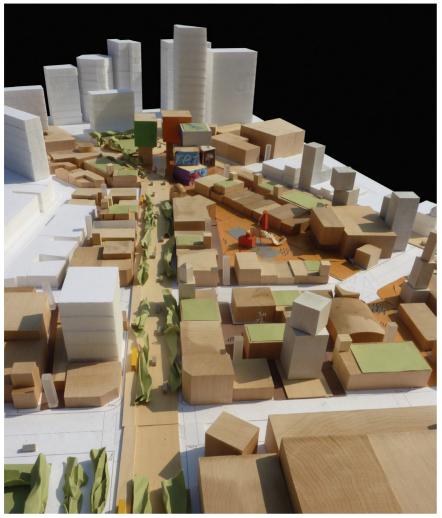
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CAN CITY LAB'S PROPOSALS SAVE WESTWOOD

Westwood Village resembles the US Congress: everyone agrees it's broken, be limited to an express but nobody knows how to fix it. Traffic gridlock, scarce parking, vacant storefronts, the homeless, and a pervasive air of decay ten blocks of the Village all contrast with the vibrancy given over to pedestrians of downtown Santa Monica and cyclists. All argued and Beverly Hills, and even Century City. Those hubs provide the quality retail, restaurants, and entertainment that the Village once had and has now lost.

CityLAB, UCLA Department of Architecture and Urban Design's think tank, has spent the past year director Aaron Betsky considering how Westwood agreed that the car is not might be revitalized. For starters, UCLA's Hammer Museum recently hosted a symposium at which two architectural teams presented bold visions and CityLAB director Dana Cuff in the system—it may moderated the comments create a development of an expert panel. In their node without significantly presentations architects Roger Sherman and Edwin Chan urged that cultural resources bottled up on the UCLA campus to boost audiences in the landmark Fox and Bruin theaters, and encouraged artists to occupy empty

posed that through-traffic bus linking the campus to future Metro stations, with cars left in peripheral parking structures, and for a mix of high and low buildings and open space.

In the discussion that

followed, panelists questioned these assumptions and made their own suggestions. LA Times critic schemes were radical Christopher Hawthorne and Cincinnati Art Museum going to go away any time soon. The new Westwood metro station, part of LA's Purple Line extension, won't open before 2024, and—to judge from others reducing traffic.

Mark Robbins, Dean of Syracuse University School Third Street Promenade of Architecture, spoke of a downtown warehouse his be transferred to the Village institution had redeveloped; to match the Fox Theater its popularity spurred commercial development on neighboring blocks. UCLA, in contrast, has

storefronts. Neil Denari pro- developed its campus as a self-sufficient island on the land, where students beyond, and giving them can sleep, shop, eat and be entertained, leaving only in search of alcohol. The notion that the university would relocate its major museum and performing arts programs, let alone its profitable concessions, seems highly unlikely.

Cuff insisted that this initiative was not intended as a master plan or redevelopment, even though both transformations that would require visionary leadership the tooth fairy might cling and major funding. Where might these come from? Nobody was saying, and (surprisingly) none of the seven architects contributing to the discussion mentioned, the importance of design in this transformation. This is one area in which the Village could compete effectively. Century boxes, and Santa Monica's and Beverly Hills' Golden Triangle have nothing and other survivals of the legendary Janss Company's enlightened 1920s development. Imagine UCLA

commissioning the best architects, in LA and a free hand to design its property, as the University of Cincinnati did when it invited Morphosis, Bernard Tschumi, and Gwathmey Siegel to help create a stunning urban complex on its campus. What if they were to leverage their prestige and their physical dominance of the Village to set an exemplary standard that its 350 small property owners will never aspire to? the campus to reduce

to such an illusion; others

will look at what UCLA's over the past two decades and despair. The monstrous of architectural talent, bulk and mediocre design of the second phase of Weyburn Terrace—a retro apartment block for graduate students on the west side of the Village—is as damaging to the character of the community as Alan Casden's Palazzo, a garish, clumsily detailed residential complex on the east side. Housing students near

Those who still believe in commuting is a great idea, and it could infuse life into the Village, but why

can't UCLA take inspiration capital programs have done from other top schools and LA's extraordinary roster rather than from crass developers? The lack of enlightened patronage and impoverishafflicts all of southern

ment of the public realm California. We excel in the creation of art, music, and entertainment, but architecture is an orphanexcept for private houses. Westwood is a symptom of that disease, but it has the potential to test a cure. MICHAEL WEBB IS A FREQUENT

CONTRIBUTOR TO AN.





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